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THE ART OF CASTING IN PLASTER

AMONG THE

ANCIENT GREEKS AND ROMANS.



R. W. W. STORY'S articles in the November and December numbers of the *International Review* contain repeated references to a pamphlet of mine, entitled *Du Moulage en Plâtre chez les Anciens*, in which I endeavored to show reason for believing that the ancients understood the art of casting in plaster. Mr. Story allows that they modelled in plaster, and that they took impressions in clay, pitch, wax, and gypsum, from shallow moulds of stone without under-cuttings; but he says that "to infer from this that they understood and practised the art of making moulds and casts from life or from the round is utterly unwarrantable." As, despite the ingenuity of his arguments, he has failed to

convince me of the incorrectness of my inferences, I wish to say a few words in support of my unchanged opinion.

After giving in his first article what he considers to be the real meaning of a much discussed and very obscure passage in Pliny's *Natural History*, quoted in the above-mentioned pamphlet, he proceeds in his second article to dispute the validity of the collateral testimony brought forward in it to support my conclusions, which he supposes me to have reached by "constantly confounding the distinct processes of casting and modelling," thus showing that he has entirely misunderstood my object in proving that the ancients modelled in gypsum and other substances. I did this, not because I was ignorant of what every child knows, but because I thought it fair to infer that those who knew how to model in plaster, clay, and pitch, may have known how to make casts in plaster. Now it would be quite as reasonable for me to argue that, because Mr. Story (page 512) quotes one of the letters of Pliny the younger (*Ep.* 7. 33. 2) in support of an opinion advanced by Pliny the elder in his *Natural History*, he does not know that there were two Plinys, as for him to argue that I do not know the difference between modelling and casting, because I spoke of the first in connection with the last process. True it is, as in the case of printing, that centuries often elapse between the first and second steps in an art. "Adopting Mr. Perkins's method of argument," says Mr. Story, "we might prove that the Romans printed books in movable types, because we know that they did use them for printing on brick, and regard the fact that no such printed books have come down to us as utterly inconclusive, as all may have perished." The point is well taken, and might close the discussion as to the use of piece moulds for casting by the ancients, were there no casts so made in existence, for without such moulds it is impossible to cast anything but a very flat design. But is Mr. Story quite sure that the head and arms in plaster of a life-size figure of Cupid in the British Museum, which he cites, were not cast? A writer in a late number of the *Academy*, in noticing what Mr. Story has written, says: "He seems not to have examined the figure in question. The head has been cast in three pieces, with clearly-cut joints, which have been afterwards fitted together by a band of liquid plaster underneath. One of the joints is concealed by means of a wreath round the head, which has been afterwards modelled by the hand. Similarly, the arms have been cast in two separate moulds, the one giving the upper, the other the under side of the arm. The joints are very skilfully concealed. These objects were found in the Cyrenaica, and appear to belong to the third century B. C. They would represent the skill of the period in casting in plaster." If the writer of this paragraph be correct in his statement, then "the great fact that nothing has been found of ancient art, cast in plaster," asserted by Mr. Story on page 685, is satisfactorily disposed of.

One of his arguments against the knowledge of casting in antiquity, brought forward on page 651, in connection with my reference to Canova's belief that the ancients made small sketches, and transferred their proportions, measures, and general forms by proportional compasses to their large works, is that it would have saved them from the incorrectness incident to such a process. "Defects," he says, "scarcely perceptible in a small figure, become gross errors when multiplied into a large one. The increased figure would be invariably untrue in its effect and in its measures." As one of the highest examples of this, Mr. Story takes the Theseus, whose defects, he says, "of

disagreements of measurement in corresponding parts are evidently the result of the defective mechanical process of enlargement. The legs are beautifully modelled, but of unequal length. The same observation is true of the clavicle, and indeed throughout the statue."

Supposing this to be true, and Mr. Story has probably assured himself by actual measurement that it is so, I must confess my surprise that any student of Greek sculpture should think it unintentional. That it was deliberately done seems to me self-evident, as it coincides with the Greek practice of working with a view to correct the defects of vision. Thus Penrose, in his *Principles of Athenian Architecture*, proves that the mind, guided by experience, constantly corrects the images presented to the eye, and concludes that Greek architects labored to save the spectator from this trouble by giving such forms to their buildings as would make them appear, *not what they are, but what they ought to be*. With this intent every apparently horizontal line in the Parthenon was curved, every wall and column inclined to a common centre, and the columns of the peristyle at the angles of this as of other Greek temples were made larger than those on the sides and ends, because, as they stood in a brighter light, they would otherwise have appeared smaller to the eye. Would Mr. Story, on ascertaining the structural curves and inequalities of the Parthenon, conclude that Iktinos did not know how to lay straight lines of masonry, or was unable to make his columns all of the same size? And yet in doing so he would have been no more unjust to the architect of the temple than he is to the sculptor of its pediment figures, whose deep knowledge of optics enabled him to calculate in his studio exactly what effect his statues would produce when they were raised to a height of thirty feet from the ground.

Mr. Story makes much of the fact that no plaster casts, and no other moulds than flat moulds of hard substances or of wax, have been found in a city suddenly buried like Pompeii; and we admit that this is very strange, if such things were made by the ancients, though not more so than that it has failed to furnish us with any statues or fragments of statues modelled in plaster, about whose existence in ancient times there is not a shadow of doubt. Referring to chryselephantine work, he says: "It was a common practice of the Greeks, in making their large statues, to build up a core of wood, brick-work, plaster, and other materials, as a foundation or rough sketch. On the surface of this, in their chryselephantine statues, they veneered sheets of gold and ivory, sometimes covering their entire surface with these precious materials," etc. Granting this to have been their practice, we should be glad to have some new explanation of the process of preparing the plates of ivory which were to be attached to the core by nails, rivets, etc., since it is commonly supposed that, after the image had been modelled in clay upon the core or kernel, it was cast in plaster, and the cast thus obtained was cut into sections, each of which was given to a workman to be reproduced in ivory. Without such a double process of modelling in clay and casting in plaster, we are unable to see how the plates of ivory could have been shaped to fit their distinct places in the general plan.

Another ancient process of covering such roughly executed cores with a composition of resin and pitch, afterwards hardened by fire and then carefully finished, is supposed by Mr. Story to be that alluded to by Lucian in his *Zeus Tragῶδός*, and by Apollodoros in a passage concerning a statue of Herakles made by Daïdalos, both of which were referred to in my French pamphlet as evidence that the ancients made use of pitch mingled with other substances to reproduce the forms of statues. In regard to this Hermes of the Agora, mentioned in Lucian's satire, who complains that his limbs are clogged with pitch daily put upon them by sculptors, "in order to take impressions," we admit that it does not necessarily imply the subsequent use of plaster, though we can hardly see what other use could have been made of the pitch moulds thus obtained than that of taking plaster casts from them. I quoted the passage from Apollodoros in order to show that, if the words *ἐν πίσση* as they stand in the original text be accepted, we may then conclude that pitch was used as a material for modelling. If, however, the amended version, *ἐν Πίσῃ*, be taken, it should not be translated, as Mr. Story translates it (page 659), to mean that the Daïdalos statue was a *ξύανος*, that is, an image made of pine wood, but, as Dr. Brunn translates it in his *Geschichte der Griechischen Künstler* (Vol. I. p. 16), that the said statue, which was so life-like that the demigod, thinking it to be a living being, threw a stone at it, was *at Pisa*, a city in the Elian territory, near Olympia. The amended reading which allows this interpretation is given by Overbeck in the *Schriftquellen*, Text 102, No. 11.

In a subsequent communication to the ART REVIEW I propose to take up the passage from Pliny, upon which, as Mr. Story says (page 686), all proof rests as to whether the ancients did or did not cast in plaster, in the modern sense of the term.

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